

## REMARKS

The Office Action mailed July 8, 2003, has been received and reviewed. Upon entry of the above amendments, claims 1, 3 - 14, 16, 18 - 20, 22 - 24, 27, 29 - 39, 41, and 42 will be pending in the application and claims 2, 15, 17, 21, 25, 28, and 40 will be cancelled without prejudice.

In the Office Action of July 8, 2003, claims 1, 13, 16, 18, 20, 23, 24, 26, and 35 were rejected. Claims 2 through 12, 14, 15, 17, 19, 21, 22, 25, 27 through 34, and 36 through 42 were objected to as being dependent upon rejected base claims but were indicated to be allowable if appropriately amended. The indication of allowable subject matter in such claims is noted with appreciation. Applicants have amended claims 1, 3, 13, 16, 18, 20, 22, 24, 26, 35, and 39. Applicants respectfully request reconsideration of the application as amended herein.

### **35 U.S.C. § 102(b) Anticipation Rejections**

#### Anticipation Rejection Based on U.S. Patent No. 6,258,185 to Branagan.

Claims 1, 13, 16, 20, 26 and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by Branagan (U.S. Patent No. 6,258,185). Applicants respectfully traverse this rejection, as set forth below.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants have amended independent claim 1 to include the limitation set forth in now cancelled claim 2 which was indicated to be allowable. That is the neutron absorbing layer is to comprise "a neutron absorbing material selected from the group consisting of gadolinium, gadolinium oxide, gadolinium phosphate, and mixtures thereof...." Applicants therefore respectively submit claim 1 is in condition for allowance. Dependent claim 3 was amended to depend from claim 1 in light of claim 2 being cancelled.

Independent claim 13 has been amended to require "a plurality of neutron absorbing particles selected from the group consisting of gadolinium, gadolinium oxide, gadolinium

phosphate, and mixtures thereof...." Such limitation was previously set forth in dependent claim 15, which was indicated to contain allowable subject matter. Therefore, Applicants respectfully submit that claim 13 is in condition for allowance. Dependent claim 15 has been cancelled.

Independent claim 16 has been amended to require "a bond coat layer overlying at least a portion of the substrate surface" as well as to require the neutron absorbing layer overlying at least a portion of the substrate surface to overly at least "at least a portion of the bond coat layer". This limitation was generally set forth in now cancelled claim 17 which was indicated to contain allowable subject matter. Thus, Applicants respectfully submit claim 16 is now in condition for allowance.

Independent claim 20 has been amended to require that the metal alloy material now be a "nickel-based" metal alloy as previously set forth in now cancelled claim 21 which was indicated to contain allowable subject matter. As a result, Applicants respectfully submit claim 20 is in condition for allowance.

Independent claims 26 and 35 have each been amended to include the limitation previously set forth in now cancelled claims 28 and 40 which depended upon claims 26 and 35 respectively, and which were indicated to contain allowable subject matter. That is, claims 26 and 35 each now require a neutron absorbing layer comprise "a neutron absorbing material selected from the group consisting of gadolinium, gadolinium oxide, gadolinium phosphate, and mixtures thereof". Applicants respectfully submit that the addition of such limitation now places claims 26 and 35 in condition for allowance.

Anticipation Rejection Based on U.S. Patent No. 6,125,912 to Branagan.

Claims 18, 23 and 24 were rejected under 35 U.S.C. § 102(a) as being anticipated by Branagan (U.S. Patent No. 6,125,912). Applicants respectfully traverse this rejection, as set forth below.

Independent claim 18, as amended above, now requires "a ceramic material matrix comprising an alumino-silicate material...". This limitation was previously set forth in now cancelled dependent claim 19 which was indicated to contain allowable subject matter. Applicants respectfully submit claim 18 is therefore in condition for allowance.

Applicants, for the reasons discussed in the Amendment and Response to the previous Office Action dated January 30, 2003, respectfully maintain that independent claim 23 as originally filed is distinguishable over the '912 Branagan patent and respectfully ask the Office to reconsider the 35 U.S.C. § 102(a) rejection thereof. Applicants concede that the Branagan '912 patent discloses that intermetallic materials may be formed with elemental gadolinium. However, the '912 Branagan patent appears to be conspicuously silent on teaching "...a metal alloy material comprising nickel, molybdenum, chromium, tungsten, and iron; and *a plurality of neutron absorbing particles dispersed in the metal alloy material, the neutron absorbing particles comprising gadolinium oxide....*" Thus, Applicants respectfully submit that independent claim 23 as originally filed is not anticipated by the '912 Branagan patent and is allowable.

Independent claim 24 has been amended by Applicants to require the ceramic material to comprise "an alumino-silicate material" as previously set forth in now cancelled claim 25 which was indicated to contain allowable subject matter. Therefore, Applicants respectfully submit that independent claim 24 is now in condition for allowance.

#### **Objections to Claims 17 and 27 through 29/Allowable Subject Matter**

Claims 2 through 12, 14, 15, 17, 19, 21, 22, 25, 27 through 34, and 36 through 42 were objected to as being dependent upon rejected base claims, but were indicated to contain allowable subject matter and would be allowable if placed in appropriate independent form. As mentioned above, Applicants are appreciative of the quick indication of allowable subject matter in these claims and in light of the above amendments, believes that the now pending claims are in condition for allowance.

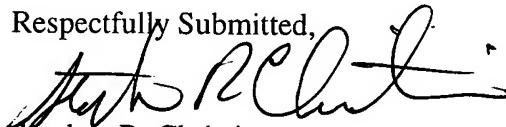
#### **ENTRY OF AMENDMENTS**

The amendments to claims 1, 3, 13, 16, 18, 20, 22, 24, 26, 35 and 39 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

## CONCLUSION

Claims 1, 3 - 14, 16, 18 - 20, 22 - 24, 27, 29 - 39, 41, and 42 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited.. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully Submitted,



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